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CLAIMS

1. A digital broadcasting apparatus for generating a digital broadcasting signal based on data of source information and modulating the same to a predetermined broadcasting frequency for output, comprising

a sub-signal generating circuit for generating a sub-signal for controlling signal transmission;

a random sequence generating circuit for generating a pseudo-random sequence using an initial value of a random number code set based on said broadcasting frequency;

a sub-signal modulating circuit for modulating the sub-signal using the pseudo-random sequence generated by the random sequence generating circuit; and

a modulating circuit for performing modulation according to a predetermined modulation scheme using a main signal generated based on the data of source information and output signal of the sub-signal modulating circuit.

2. A digital broadcasting apparatus as set forth in claim 1, wherein said modulating circuit is an OFDM modulating circuit for performing OFDM modulation using said main signal and output signal of said sub-modulating circuit.

3. A digital broadcasting apparatus as set forth

Fig. 1
col. 1, 2

Fig. 1
col. 5

col. 2

Fig. 2(5)
col. 2, 9

Fig. 1
col. 3, 9, 11

Fig. 2(5)
col. 3, 9, 11

Fig. 4
col. 4

in claim 1, wherein said data of source information is sound data obtained by encoding a sound signal.

Object

4. A digital broadcasting apparatus as set forth in claim 1, wherein a bandwidth of said broadcasting frequency is divided into a plurality of channels, a predetermined channel number is assigned to each channel, and said random sequence generating circuit sets an initial value of a random number code for generating said pseudo-random sequence based on said channel number.

5. A digital broadcasting apparatus for generating a digital broadcasting signal based on data of source information and modulating the same to a predetermined broadcasting frequency for output, comprising (124)

a a frequency interleaving circuit for frequency interleaving a main signal generated according to said data of source information by using a parameter set based on said broadcasting frequency and (128)

b a modulating circuit for modulating said frequency-interleaved main signal based on a predetermined modulation scheme.

Object

6. A digital broadcasting apparatus as set forth in claim 5, comprising

a sub-signal generating circuit for generating a sub-signal for controlling signal transmission and a sub-modulating circuit for modulating said

sub-signal by using a pseudo-random sequence generated by using an initial value of a random number code set based on the broadcasting frequency and for supplying the modulated signal to said modulating circuit.

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